

OUTLINE OF AN EMERGENCY ACTION PLAN

A. Introduction.

1. Purpose and Scope. The Emergency Action Plan (EAP) should provide a brief statement of purpose and scope such as: "The purpose of this emergency action plan (EAP) is primarily to safeguard the lives and secondarily to reduce property damage of the citizens of Mann County, living along Spring Creek in the event of flooding caused by large runoff or failure of the Lake Jimmel Dam."

2. Description of Dam. Provide a brief description of the dam including the location, purpose, name of owner, and date built. If more detail is needed, such as height, maximum storage capacity or other physical data, include an appendix.

3. Hazard Area. Provide a brief description of the area that would be impacted by a breach or major flooding. Inclusion of a sketch or schematic may be appropriate here although detailed inundation maps and descriptions would generally be included in Section G.

4. Responsibility and Authority. Indicate the person or organization responsible for the maintenance and operation of the dam and the persons or groups responsible for implementing various phases of the EAP. The basic authority for carrying out the various components of the EAP should also be cited.

5. Periodic Review, Testing, and Updating. This section should provide the basis to update, extend, and improve the emergency action plan and to ensure readiness for executing the plan. Include a schedule for carrying out periodic reviews of the plan by the participants at intervals not to exceed one year with updating for changes in telephone numbers and personnel as they occur. Include procedures and schedules for periodic testing of the plan. Special procedures for those aspects of the plan not susceptible to direct testing should be established and periodic exercises simulating emergencies carried out. Consideration should be given to updating (such as use of "controlled copies"), whereby plan holders are advised of any changes.

6. Approval. This section should provide the means by which all parties to the plan agree to their responsibilities. The following is an example of a format that could be used:

We, the undersigned, this date acknowledge this Annex or Plan as a part of the emergency operation procedure to protect life and reduce property damage in case of an emergency at the Lake Jimmel Dam.

Signature, I.M. Damowner

Date

Signature, County Sheriff, Mann County

Date

Signature, Mayor, City of Wetville

Date

Signature, Director, Wetville
Emergency Services (Management)

Date

Signature, Chief, Wetville Police
Department

Date

B. Identification of Emergency.

The procedures and means for assuring timely and reliable identification and evaluation of potential or existing emergencies should be included. These would normally explain the events or conditions, which indicate an emergency; describe the data and information collection system; describe the analysis process; designate the responsible person(s); and ensure continuous coverage through designation of appropriate alternatives.

For unattended dams, the surveillance and warning system should be described along with the expected reliability and backup system in place to assure that warning is given in the event of failure of the primary system.

C. Preventive Action.

This section should discuss the preventive actions that need to be taken at the dam to prevent or delay failure after an emergency is first discovered. Because of uncertainties about their effectiveness, preventive actions usually would be carried out simultaneously with appropriate notification of an alert situation or warning situation.

The dam owner should designate a person who has the authority to make decisions and authorize immediate expenditures so that repair work will not be delayed.

This section should identify sources of repair equipment, materials, and labor; engineering expertise; and underwater examiners for use during an emergency. The materials portion should include sources of clay, sand, gravel, stone, riprap, sandbags, cement, plastic sheeting, and siphon pipe. The anticipated need for equipment and materials should be evaluated for each dam and the specific needs and the exact location of each of these items should be stated.

At some dams, it is desirable to stockpile suitable construction materials for emergency use. The amount and type of construction materials needed for emergency repairs should be determined on the basis of the structural, foundation, and other characteristics of the dam, design and construction history, and history of prior problems.

Prior arrangements for use of materials, labor, and equipment should be made if they will not be at the dam site.

D. Notification and Coordination.

1. General. A mandatory first step in the entire notification chain of events is the identification that there is or could be a problem at the dam stated in Section B. The chain of events usually proceeds from the owner, to a local or state government official, who, in turn, contacts local police and/or civil defense groups. They may contact local news media, and finally the public who are expected to take some specific actions such as evacuation. The National Weather Service (NWS) has the general responsibility for issuing flood warnings. Therefore, the plan should include NWS notification of any pending or actual dam failure so that NWS facilities could be used to help disseminate the warnings. The details of the specific steps and responsibilities of each member in this chain of notification and the expected response must be clearly defined in the plan and should be prioritized.

2. Emergency Notification and Methods. The responsibility for notifying officials of a dam emergency rests with the dam owner. For a slowly developing failure, the owner may wish to reserve this responsibility for management. For an imminent or actual failure, this responsibility may have to be delegated to the dam operator or local official who can quickly evaluate the seriousness of the problem. The responsibility should be clearly outlined in the plan. The method of notification should assure that the message can be delivered. Primary and backup communication links should be established which offer reliable operation in the extreme flood and earthquake situations which could cause dam failure.

3. Responsibility. Responsibility for the decision to proceed with the warning and evacuation of affected occupants generally rests with local and state authorities. In addition to residents, affected area occupants may also include operators of water-related facilities (including resort owners, boat rental concessionaires, and campground operators), users of recreation facilities, and other people who could be endangered.

To the extent possible, emergency situations that would require immediate notification of public officials in time to allow evacuation of the potentially affected areas should be predefined and documented. If sufficient time is available, the decision to notify public officials of an emergency can be made by the owner or by a designated employee in the dam owner's organization. If failure is imminent or has already occurred, project personnel at the dam site should be directed to notify the public officials. The urgency of the situation should be made clear so that public officials will take positive action immediately.

4. Use of News Media. The news media, including radio, television, and newspapers, should be utilized to the extent available and appropriate. Use of news media should be preplanned by the dam owner or public officials. Notification to the news media may be made by the dam owner or public officials depending on the type of emergency. Notification plans should define emergency situations for which each medium will be utilized and should include an example of a news release that would be the most effective for each possible emergency. The news media should not be relied upon as the primary means of warning.

5. Alert. An ALERT situation is used to provide notice that although failure or flooding is not imminent, a more serious situation could occur unless conditions improve. Local officials

and residents in affected areas should be alerted that an unsafe situation could be developing. Examples would be: a full reservoir with additional rainfall or snowmelt in the forecast that could cause discharge through auxiliary spillways or overtopping; or a dam that is seeping excessively but is not yet a hazardous situation.

6. Warning. A WARNING situation indicates that flooding is imminent either as a result of high runoff or an impending failure of the dam. It would normally include an order for evacuation of delineated inundation areas.

Wherever possible, the warning and evacuation procedures for a dam emergency should follow the standard operational procedures already established. The difference in dam emergency events may be the elements of time and size or dimension of hazard. The warning for a dam emergency must be specific and address these elements. When possible, more than one means of communicating warnings should be planned and repetitively issued. Consideration should be given to disseminating the warning to any non-English speaking populace in their language.

7. Continuing Conditions. The person responsible for monitoring the dam should keep local authorities informed of developing conditions at the dam from the time of initial determination that an emergency exists until the emergency has been terminated. The emergency action plan should delineate responsibility for, and the frequency of, conducting and reporting the results of the continued onsite examination and evaluation of conditions until the emergency is terminated. It should also contain procedures for the initiation of preventive action, as indicated in Section C.

E. Evacuation.

1. General. Evacuation planning and implementation are the responsibility of the state and local officials having responsibility in areas that would be inundated by flood releases or failure of a dam.

2. Evaluation of Existing Emergency Plans. A review of any existing emergency action plan should be made prior to the development of the evacuation portion of the EAP. This review should be coordinated with state and local officials responsible for evacuation and the dam owner. The addition of an annex to an existing plan may be sufficient. Where such a plan already exists, an assessment of the adequacy of several aspects of the plan should be made before the community decides to adopt an annex and determines what the annex needs to include.

3. Local Government Organization. This portion of the plan should discuss the various aspects of evacuating the affected public by the state and local authorities. It is based on the particular local government organization. For example, a small community with a less complex organization and a few affected flood plain residents would need only an abbreviated plan. However, even then, the action to be taken must be stated very specifically.

4. Factors to be Addressed. The following factors should be addressed in the evacuation section:

(a) Transportation. Evacuation procedures should assure that the planned routes and modes of transportation will be usable during the dam emergency. Make provisions for any necessary special assistance to evacuees such as transportation and aid to invalids or the elderly. It is possible that an existing plan supplemented by maps showing the extent of inundation, routes for evacuation, and reception centers, is all that is needed. Special care may be needed to prevent accidental travel into dangerous areas.

(b) Reception and Care. The plan should provide specific arrangements for shelter, feeding, and other care for evacuees. The community may want to indicate not only the location of centers and the care to be provided, but also what cannot be provided and what individuals should (or should not) bring with them.

F. Emergency Termination and Follow-Up.

An emergency action plan needs to address who and how a declared emergency will be terminated, security at the dam and downstream disaster areas, and a follow-up critique and report.

1. Termination. There are two conditions requiring a termination of the emergency. One has to do with emergency conditions at the dam and the other is related to the evacuation and disaster response. The dam owner is responsible for making the decision that an emergency condition no longer exists at the dam. The applicable state or local emergency officials are responsible for termination of the evacuation or disaster response activities.

The owner and/or responsible state or local officials should agree upon and prepare a news release in advance which can be used by radio or television announcers to broadcast to the general public immediately. Such news releases are used to supplement other methods of notifying the public that the emergency has been terminated. News releases should be developed so that the audience will know precisely what to do when reentering or approaching the affected area.

2. Security and Entry. An emergency action plan should consider security provisions within the affected area during an emergency to protect the public and permit effective execution of emergency response actions and, following an emergency, to protect the public and ensure entry to the disaster areas.

3. Critique and After-Action Report. Following an emergency, a critique should be conducted among all participants. The critique should discuss and evaluate the events prior to, during, and following the emergency; significant actions taken by each participant, and what improvements would be practicable for future emergencies; and all deficiencies found in procedures, materials, equipment, manpower, leadership, and funding. The results of the critique should be documented in an after-action report and used as a basis, for revising the emergency action plan.

4. Other. Include arrangements addressing any other evacuation aspects as required for reoccupancy of the affected areas.

G. Hazard Area.

1. Description. The description of the area subject to inundation should be clear and concise and should include both maps and a narrative descriptions. It should describe the specific area threatened and it should be easily read and easily understood. It should include information on the size of the expected flood relating it to known landmarks and historical flood heights.

Information on estimated flood stages, or increases in water surface elevation above normal levels should be listed for well-known locations. For these same locations, an estimate of the maximum flood width, or the distance flooding will extend from the watercourse, should be provided. An estimate of the travel time of the flood wave to various locations should also be listed.

Whenever possible, major streets, railroads, or other prominent and well-known features or distances from such features, should be used in developing the description.

2. Conditions Assumed. The conditions assumed in determining the hazard area for mapping should be explained since an actual emergency may result in greater or less consequence than assumed.

3. Inundation Maps. Generally, an inundation map depicting the hazard areas for the assumed breach condition and the design flood without breach condition should be included with the plan.

Describe the methods used to determine inundation boundaries, maximum water surface elevations and travel times of the flood wave to significant locations.

The maps should be developed at a scale sufficient to identify features within the area subject to inundation or possible danger related to the flood. However, the accuracy and limitations of the information presented on the maps should be discussed. It may be appropriate to supplement the inundation maps with water surface profiles at critical areas.

4. Narrative Description. Development of the flood plain below some dams is sparse and the expense of preparing detailed inundation maps is not warranted. A narrative description of the potential flooding can be provided and supplemented by vicinity maps with pertinent information at key locations. Individuals living between key locations can estimate their vulnerability by interpolating data from locations upstream and downstream of their site. Information on depth of flooding and travel for floods to reach specific locations can also be provided.

INTRODUCTION

Purpose of Plan:

The purpose of this document is to provide a plan for monitoring the _____ dam under various conditions so that an emergency situation at the dam can be properly noted and reported to agencies and persons affected. This document also provides a plan for the orderly evacuation of the downstream residents to a place of safety in the event of a potential dam failure.

Description of Dam and Problems:

The _____ dam is a _____ structure _____ feet high and impounding a maximum volume of _____ acre-feet of water. The dam has a _____ inch (CMP, RCP) principal spillway pipe with the inlet located near the _____ abutment (looking downstream) along the upstream face. The principal spillway riser has a gate valve for draining the impoundment. The dam has an open channel emergency spillway located in the _____ abutment (looking downstream). The dam normally has a freeboard (normal pool elevation to top of dam) of _____ feet.

If the dam was evaluated under the National Dam Inspection Program list all problem areas found in the summary section:

- 1) _____
- 2) _____
- 3) _____

How to Use This Document:

Persons using this plan will find a sequence of action to be taken depending on rainfall and site conditions. A summary of where to find specific monitoring, reporting, and evacuation requirements can be found on the following page (Summary and Index).

Note: A map (plan view) drawing of the dam, spillways seepage zones and important facilities should be included after this page.

SUMMARY AND INDEX

Part I - Monitoring Plan

Section A Normal Conditions:

Dam will be inspected according to a prescribed schedule and checked for items specified in this section.

Section B Adverse Conditions

Dam will be inspected by a more frequent schedule as prescribed and checked for items specified in this section.

Section C Standby Alert

Dam has specific problems which could lead to failure. Constant surveillance is required. Notification of agencies is required as specified in this section. Setting up of communications network when necessary. Emergency repairs if possible.

Section D Evacuation Conditions

Dam may fail at anytime. Evacuation order to be given, by qualified person, if necessary.

Part II - Emergency Warning Plan

Section A Notification

Notification is given to Sheriff's Department to commence evacuation. Further notification of agencies, hospitals, media, utilities.

Section B Evacuation

Narrative of evacuation procedures

Part III - Post Evacuation Procedure

Section A No failure of dam – cancellation of evacuation

Section B Failure of dam – cleanup operations, agencies to be notified

Section C Evacuation Map

Section D Inspection Record

Section E Signature and Distribution List

Part I – Monitoring Plan

Section A – Normal Conditions:

dry weather and occasional light rainfall. The plan must state areas to be inspected such as condition of trash racks, spillways, seepage zones, embankment cracking, slumps, bulges, gate or equipment failure, concrete alignment, mine subsidence, and vandalism.

Action

Responsibility

1. Inspect weekly/bimonthly/monthly

(name, address, phone)

Note: Alternates may be listed for this section in case of possible illness or vacation. Alternates should not be in the same household as the person with primary responsibility.

Section B – Adverse Conditions:

heavy or extended rainfall, flash flood warnings, snowmelt. The plan must state areas to be inspected such as spillways, seepage zones, and discharge levels.

Action

Responsibility

1. Inspect daily or more often as necessary

(name, address, phone)

2. Open gates as necessary

(name, address, phone)

Note: Alternates must be listed wherever possible in this and in following sections. Alternates should not be in the same household as the person with primary responsibility

Section C – Standby Alert:

according to specific onsite conditions such as depth of spillway flows, cracking, seepage, piping, etc.

Action

Responsibility

1. constant surveillance

(names, addresses, phone)

Note: Alternates must be listed

2. notify agencies according to checklist and wording below*

(names, addresses, phone)

Note: Alternates must be listed

*Standby Alert Notification: The responsible person shall phone each agency in sequence and deliver the following statement: "This is _____ advising you that we are starting constant surveillance of the _____ dam according to the monitoring and emergency warning plan. We are notifying you, (name of agency), of this condition, and will inform you if a decision to evacuate or cancellation of the surveillance has been made." Then answer any questions directed by the agency.

Notification Checklist

(√) Check when notified:

Phone:

_____	Division of Water	_____
_____	Office of Emergency Services	_____
_____	Sheriff Department	_____
_____	Mine Safety & Health Administration (if coal related)	_____
_____	Natural Resource Conservation Service (if NRCS structure)	_____

Action

Responsibility

- | | | |
|----|---|---------------------------------|
| 3. | Start emergency communications network, based upon the continuing deterioration of site conditions | _____
(name, address, phone) |
| 4. | Begin emergency repairs, if possible. Plan should anticipate type of emergencies that may occur based on the deficiencies of the dam, and state what materials and equipment may be required for emergency temporary repairs to prevent failure. The availability of the materials and equipment and manpower should be considered in the plan. | _____
(name, address, phone) |

Section D - Evacuation Conditions:

according to specific site conditions such as overtopping of earthen dams, cracking, or piping.

Action

Responsibility

- | | | |
|----|---|--|
| 1. | monitor dam condition, issue evacuation order if necessary | IDNR Division of Water – if present, or county authority (name, address, phone), or, owner of dam (name address, phone). |
| 2. | if evacuation order is given, proceed immediately with Part II. | |
-

Part II - Emergency Warning Plan

Section A - Notification

<u>Action</u>	<u>Responsibility</u>
1. Notify agencies according to check list and wording below:	_____ (name, address, phone number)
Evacuation Notification: The responsible person shall phone or contact the Sheriff's Department and deliver the following statement: "This is _____ notifying you that an evacuation order for the _____ dam has been given by _____ at (time) _____. Please evacuate people downstream according to the county emergency operations plan."	
(√) Check when notified:	Phone: _____
_____ Sheriff's Department or other responsible agency	_____

Section B - Evacuation

Evacuation procedures may include any number of site-specific measures such as evacuation of houses within a specified vertical distance of a highway, or everyone down to a certain point. These details must be worked out in advance with cooperation between the Sheriff's Department and Office of Emergency Services. A narrative of these procedures should appear in this section in accordance with the county emergency operations plan. Evacuation areas and location of evacuation receiving centers must be shown on a county highway or topographic map attached to this plan.

<u>Action</u>	<u>Responsibility</u>
1. Establish command post, direct emergency operations, organize effort, direct officials of cooperating agencies, coordinate effort.	County OES Director Sheriff of County or ranking deputy State police or ranking officer
2. Transportation of evacuees, list of infirm or disabled	_____
3. Police security of area to prevent looting.	_____
4. Location of roadblocks to prevent unauthorized entry.	_____
5. Location of evacuation centers (not below dam).	_____
6. Agencies in charge of evacuation centers, including food, handle inquiries on status of evacuees.	_____
7. Notification of utilities (√) Check when notified:	
_____ Telephone	_____ Sewage
_____ Electric	_____ State/County Department of Highways
_____ Gas	_____ Railroad (if applicable)
_____ Water	

Part III - Post Evacuation Action

Section A – No Failure of Dam

Should no failure occur and the hazard pass, cancel evacuation order –IDNR responsible to declare hazard secured

Section B – Failure of Dam

Should failure occur:

<u>Action</u>	<u>Responsibility</u>
1. Notify agencies according to checklist below:	(Name, address, phone)
(√) Check when notified	Phone: _____
_____ Office of Emergency Services	_____
_____ Dam Control Section	_____
2. Evacuation or assistance to persons stranded in homes due to highway/bridge washout	
3. Search and rescue	
4. Cleanup crews and equipment	
5. Long-term lodging and food relief	

Section C - Evacuation Map

This page will contain a detailed map of primary and secondary evacuation areas, location of the dam, roadblocks, evacuation centers, etc.

Acceptable maps include US Geological Survey Topographic Maps (available from the Indiana Geologic Survey in Bloomington or Indiana Department of Highways General Highway County Maps)

Section D – Inspection Record

Date Inspected	Inspector	Comments

Section E – Signature and Distribution List for this Document

<u>Name</u>	<u>Title</u>	<u>Date</u>
(preparer of plan)		
(IDNR Approval)		

Distribution:

Name and address of Person or Agency

EMERGENCY NOTIFICATION PLAN-LAKE JIMMEL DAM

START HERE

<p>Owner or Responsible Person Assigned By Owner Who Observes Problem</p> <p>A. Gather Pertinent Facts B. Assess whether developing failure C. Report to Owner</p>	Local Authorities-contact all of the following:
<p>Owner or Owner's Representative</p> <p>Office Phone: _____</p> <p>Name: _____ Residence Phone: _____ Radio: _____</p> <p>Name: _____ Residence Phone: _____ Radio: _____</p> <p>_____</p> <p>Action Priorities:</p> <p>1. Assess report to validate correctness of reported condition. 2. Advise observer about any action required of him to notify visitors 3. Notify Local Authorities to evacuate residents. 4. Contact Owner's Engineer 5. Contact Division of Water during working hours (7:30-4:30 pm) 6. During other hours (evenings or weekends), contact State Emergency Management Agency (SEMA) 7. Request Contractor to mobilize to site.</p>	<p>County Emergency Management Agency Director: _____ Pager: _____ Phone: Day: _____ Night: _____ County Sheriff: _____ Phone: _____</p> <p>Action Priorities:</p> <p>1. Coordinates evacuation downstream of dam 2. Notify local news media of dam failure 3. Prevent access to the flooded area and near dam</p>
	Division of Water 317-232-4162
	Contractors List:
	State Emergency Management Agency (SEMA)
<p>Name of Operation Director: _____ Phone: _____ Day: _____ Night: _____</p> <p>Action Priorities for Duty Officer</p> <p>1. Contact appropriate SEMA staff 2. Contact all Dam Safety Personnel listed and establish telephone conference capabilities with those available</p>	<p>Contractor: _____ Address: _____ Day Phone: _____ Night Phone: _____</p> <p>Contractor: _____ Address: _____ Day Phone: _____ Night Phone: _____</p>
Owner's Engineer: Day Phone: _____ Name: _____ Night Phone: _____	